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IUPAP Recommendations for the Use of Major Physics Users Facilities

1. Preamble

The original version of these Recommendations, which were proposed by the United States Liaison Committee (USLC) shortly after the Executive Council meeting in 1994, have been circulated widely to the IUPAP family as News Bulletin 95-1 (March 1995). Since then the President has received many positive responses supporting the Recommendations, as well as a few critical comments made in the context of existing large facilities that recover operating costs from users. In the light of these comments a revised version of the Recommendations, which explicitly mention a realistic special treatment for such existing facilities, have been formulated by the USLC. These revised ones were discussed at the IUPAP Executive Council Meeting, September 1995, in Budapest and have been approved. They will be presented to the IUPAP General Assembly in Uppsala, September 1996, for ratification.

These Recommendations are the result of an extensive consultation with IUPAP commissions, liaison committees, UNESCO Physics Action Council and the community at large. The IUPAP Executive Council is grateful to the USLC who formulated the preliminary draft which then became the basis for these discussions. Thus, the final form, given below, incorporates a wide perspective on such major facilities from many different disciplines and enjoys General support within our community.

IUPAP anticipates that the Recommendations will be accepted widely within the international physics community and that all future large facilities will be planned, from the beginning, in conformity with these Recommendations. Further, IUPAP has brought these Recommendations to the attention of other member scientific Unions of the International Council of Scientific Unions (ICSU) through the ICSU General Committee. It is our expectation that these IUPAP Recommendations will prove to be of broad interest and will eventually be generalized to become ICSU Recommendations.

2. Definition of major use facilities

By a major use facility we mean a regional, national or international facility with unique experimental capabilities of sufficient power and utility annually to attract a large number of visiting users, usually of the order of hundreds or even thousands. Most high-energy and nuclear particle accelerator centers are in this category, as are plasma confinement facilities. To these we add accelerator facilities designed to produce and use synchrotron radiation, spallation neutron sources and nuclear reactors designed to produce neutrons for research purposes. Other, but by no means exhaustive, examples may include centers for high-resolution electron microscopy and high pressure or high-magnetic field research. The pattern of use at some of these facilities involve large teams of users staying for months or years at a time. In other cases experiments may be carried out in days or even hours by one or two person teams. While physicists do not have exclusive use of these

facilities, they have pioneered their development, management and use, and have the strongest possible interest in their effective utilization.

These Recommendations are intended to apply to the inter-regional or international use of major facilities.

3. IUPAP Recommendations

3.1 The selection of experiments and the priority accorded to them are the responsibility of the host facility.

3.2 The criteria to be used in selecting experiments and determining their priority are:

a. scientific merit
b. technical feasibility
c. capability of the experimental group
d. availability of the resources required

3.3 The institutional, regional or national affiliations of the experimental teams should not influence the selection of an experiment nor the priority accorded to it.

3.4 In some instances, no additional capabilities are needed to successfully perform an approved experiment other than those capabilities routinely provided by the host facility. When this is not the case, the contributions of each team and of the host facility are to be agreed upon by the authorized leaders of the team and by the host facility prior to approval. Whenever appropriate, these agreements should be formally drawn, and be accompanied by discussions with the relevant authorities for the regions concerned.

3.5 Host facilities should not normally require experimental groups to contribute to the running costs of the facilities (including associated experimental areas and equipment normally maintained by the facilities). Exceptions to this Recommendation may be made in special circumstances or in the case of proprietary research, which we define as research the results of which are not intended for timely disclosure in the open scientific literature. Such circumstances will not be invoked as an excuse to restrict access artificially nor exclude participation. Should a user facility feel that special circumstances are existent, the facility should make public their reasons for a deviation form the normal procedure and the conditions for access by scientific groups. In all cases, special consideration should be given to the needs of less developed nations.

4. Comments on the need for common Recommendations

By their very nature, major user facilities are complex and costly to both build and operate. In a world with finite financial and intellectual resources, it is neither feasible nor necessary for every region or nation to build their own major user facilities in each of the fields discussed above. Yet it is surely a desirable goal that the best scientists in their respective fields have access to the most advanced and powerful tools available. While most scientists readily subscribe to the above goal, the institutions that they work within sometimes set up various political and financial obstacles which are, from an international perspective, provincial and restrictive. The above goal can only be achieved through effective inter-regional and international cooperation.

We can argue by analogy to the wider economic arena. Regions and nations find it useful to agree upon Recommendations for free trade in order to prevent forces of narrowly-defined political and financial self-interest from disrupting desirable

economic activity. These Recommendations lay the foundations for more detailed negotiations and agreements for economic activities in specific sectors. In a like way, international science can benefit by the adoption of uniform Recommendations to promote open access of major user facilities to the best and brightest scientific minds in the world, regardless of their political, regional or national affiliations.

These Recommendations may from time to time lead to imbalances in guest usage of host facilities in a given scientific discipline. But across all fields of science these imbalances will tend to average out among the major scientific nations. Less affluent regions of the world, while unable to independently sustain major user facilities, can certainly contribute to the vitality of all such facilities with talented scientists and financial contributions as appropriate to individual experiments.

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